

## ABSTRACT OF THE DISCLOSURE

The present invention relates to methods and devices for non-invasive and non-disturbing measurements of metabolizing rates of substantially spherical metabolizing particles, such as an embryo, and to a method and device for controlling oxygen partial pressure at the level of the embryo. Furthermore, the invention relates to a method for regulating supply of metabolites to a substantially spherical metabolizing particle, as well as a method for selecting substantially spherical metabolizing particles of a predetermined quality. The invention is carried out in a device capable of establishing a diffusion gradient of metabolites between the substantially spherical metabolizing particle inside a compartment in the device and the environment outside the compartment. The metabolizing rate is determined based on information of the metabolite diffusion gradient.